

Atty Dkt. No.: 10991975-1
USSN: 09/754,687

CLAIMS

Claim 5 has been amended. A complete listing of the claims, including their current status, is provided below.

1. **(Original)** A method for selectively separating at least one component from a multi-component fluidic sample, said method comprising:

introducing said multi-component fluidic sample into a micro-fluidic device having a fluid flow path and at least one micro-valve comprising a phase reversible material; and

contacting said introduced multi-component fluidic sample with said micro-valve under conditions sufficient for said at least one component to at least move into said micro-valve while the remaining components of said multi-component fluidic sample remain outside of said micro-valve;

wherein said at least one component is selectively separated from said multi-component fluidic sample.

2. **(Original)** The method according to Claim 1, wherein said phase reversible material is a phase reversible polymer.

3. **(Original)** The method according to Claim 1, wherein said phase reversible material is thermo-reversible.

4. **(Original)** The method according to Claim 1, wherein said method further comprises modulating the porosity of said micro-valve at least once during said method.

5. **(Currently Amended)** The method according to Claim 1, wherein said at least one ~~anolyte~~ component is a low molecular weight ~~anolyte~~ component.

Atty Dkt. No.: 10991975-1
UISSN: 09/754,687

6. **(Original)** A method for selectively separating components having a molecular weight below a threshold value from a multi-component fluidic sample, said method comprising:

introducing said multi-component fluidic sample into a micro-fluidic device having a fluid flow path and at least one micro-valve comprising a phase reversible material having a porosity that can be modulated in response to an applied stimulus; and

contacting said introduced multi-component fluidic sample with said micro-valve under conditions sufficient for said components of said multi-component fluidic sample having a molecular weight below said threshold value to at least move into said micro-valve while the remaining components of said multi-component fluidic sample remain outside of said micro-valve;

wherein said components having a molecular weight below a threshold value are selectively separated from said multi-component fluidic sample.

7. **(Original)** The method according to Claim 6, wherein said phase reversible material is a phase reversible polymer.

8. **(Original)** The method according to Claim 6, wherein said phase reversible material is thermo-reversible.

9. **(Original)** The method according to Claim 6, wherein said method further comprises modulating the porosity of said micro-valve at least once during said method by applying said stimulus to said micro-valve.

10. **(Original)** The method according to Claim 9, wherein said stimulus is a change in temperature.

Atty Dkt. No.: 10991975-1
UJSSN: 09/754,687

11. **(Original)** The method according to Claim 6, wherein said threshold value is about 1000 daltons and said method is a method of desalting said multi-component fluidic sample.

12. **(Original)** A method for concentrating a multi-component fluidic sample with respect to at least one constituent thereof, said method comprising:

introducing said multi-component fluidic sample into a micro-fluidic device having a fluid flow path and at least one micro-valve comprising a phase reversible material having a porosity that can be modulated in response to an applied stimulus; and

contacting said introduced multi-component fluidic sample with said micro-valve under conditions sufficient for components of said multi-component fluidic sample having a molecular weight below a threshold value to at least move into said micro-valve while the remaining components of said complex fluidic sample remain outside of said micro-valve;

wherein said multi-component fluidic sample is concentrated with respect to at least one constituent thereof.

13. **(Original)** The method according to Claim 12, wherein said phase reversible material is a phase reversible polymer.

14. **(Original)** The method according to Claim 12, wherein said phase reversible material is thermo-reversible.

15. **(Original)** The method according to Claim 12, wherein said method further comprises modulating the porosity of said micro-valve at least once during said method by applying said stimulus to said micro-valve.

16. **(Original)** The method according to Claim 15, wherein said stimulus is a change in temperature.

Atty Dkt. No.: 10991975-J
USSN: 09/754,687

17. **(Original)** A kit for use in selectively separating at least one component from a multi-component fluidic sample, said kit comprising:

- (a) a micro-fluidic device having a fluid flow path and at least one micro-valve comprising a phase reversible material; and
- (b) at least one of:
 - (i) instructions for practicing the method of Claim 1; and
 - (ii) means for obtaining instructions for practicing the method of Claim 1; wherein said instructions and means for obtaining the same are recorded onto a substrate.

18. **(Original)** The kit according to Claim 17, wherein said substrate is a printable substrate.

19. **(Original)** The kit according to Claim 17, wherein said substrate is an electronically recordable substrate.

20. **(Original)** The kit according to Claim 17, wherein said kit further comprises a phase reversing means.
